Ecotox Report for Case # P-18-0231

General

[redacted]

Report Status: Complete

Status Date: 09/07/2018

CRSS Date: 07/09/2018

SAT Date:

SAT Chair:

Consolidated PMN: N

Consolidated Set:

Ecotox Related Cases:

Health Related Cases:

Submitter: Allnex USA Inc.

CAS Number: [redacted]

Chemical Name: [redacted]

Use: Waterborne UV curable resin/binder in inks or overprint varnishes used in inkjet, gravure coating, and flexo-coating processes on a variety of substrates including plastics and paper. [redacted]

Trade Name: UCECOAT® 2802 WB radiation curing resins, IRR 782

PV-max(kg/yr): [redacted]

Ecotox Assessor: Gallagher, Jeffrey

Fate Summary Statement

Fate Summary Statement: [redacted]

FATE:

Solid with MP = 125-126 °C (M)
log Kow = -2.51 (E)
S = 333 g/L
at 25 °C (M)
VP < 1.0E-6 torr at 25 °C (E)

BP > 400 °C
(E)
H < 1.00E-8 (E)
log Koc = 1.00 (E)
log Fish BCF = 0.50 (3)
(E)
log Fish BAF = -0.05 (1) (E)
POTW removal (%) = 95-99.9 via
sorption
Time for complete ultimate aerobic biodeg = wk
Sorption to
soils/sediments = low
PBT Potential: P1B1
*CEB FATE: Migration to
ground water = negl
Bioconcentration factor to be put into E-FAST:
NA

Physical Chemical Information

Molecular Weight:	2470.0		
Wt% < 500:	2.3	**Wt% < 1000:**	9.6
Physical State - Neat:	Solid (est.)		
Melting Point:		**Melting Point (est):**	
MP (EPI):			
Vapor Pressure:		**Vapor Pressure (est):**	<0.000001
VP (EPI):			
Water Solubility:		**Water Solubility (est):**	Dispersible
Water Solubility (EPI):			
Henry's Law::			
Log Koc:		**Log Koc (EPI):**	
Log Kow:		**Log Kow (EPI):**	
Log Kow Comment:			

SAT Concern Level

Ecotox Rating (1):	1

Ecotox Rating Comment (1):	
Ecotox Rating (2):	
Ecotox Rating Comment (2):	
Ecotox Route of Exposure:	No releases to water

Ecotox Comments

Exposure Based Review (Eco):	N
Ecotox Comments:	
Exposure Based Testing:	

PBT Ratings

Persistence	Bioaccumulation	Toxicity	Comments
3	1		

Eco-Toxicity Comment:

Fate Ratings

Removal in WWT/POTW (Overall): 75-90

Condition	Rating Values	Rating Description 1	2	3	4	Comment
Fish BCF:						
Log Fish BCF:						
WWT/POTW Sorption:	2-3	Low	Moderate	Strong	V. Strong	
WWT/POTW Stripping:	4	Extensive	Moderate	Low	Negligible	
Biodegradation Removal:	4	Unknown	High	Moderate	Negligible	
		Unknown	Complete	Partial	—	

Removal in WWT/POTW (Overall):	75-90					
Condition	**Rating Values**	**Rating Description** **1**	**2**	**3**	**4**	**Comment**
Biodegradation Destruction:						
Aerobic Biodeg Ult:	4	<= Days	Weeks	Months	> Months	
Aerobic Biodeg Prim:		<= Days	Weeks	Months	> Months	
Anaerobic Biodeg Ult:	4	<= Days	Weeks	Months	> Months	
Anaerobic Biodeg Prim:		<= Days	Weeks	Months	> Months	
Hydrolysis (t1/2 at pH 7,25C) A:		<= Minutes	Hours	Days	>= Months	
Hydrolysis (t1/2 at pH 7,25C) B:		<= Minutes	Hours	Days	>= Months	
Sorption to Soils/Sediments:	1	V. Strong	Strong	Moderate	Low	
Migration to Ground Water:	1	Negligible	Slow	Moderate	Rapid	
Photolysis A, Direct:		Negligible	Slow	Moderate	Rapid	
Photolysis B, Indirect:		Negligible	Slow	Moderate	Rapid	
Atmospheric Ox A, OH:		Negligible	Slow	Moderate	Rapid	
Atmospheric Ox B, O3:		Negligible	Slow	Moderate	Rapid	
Bio Comments:						
Fate Comments:						

Ecotoxicity Values

Test organism	**Test Type**	**Test Endpoint**	**Predicted**	**Experimental**	**Comments**
Fish	96-h	LC50	> 100		Dispersible
Daphnid	48-h	LC50	> 100		Dispersible
Green Algae	96-h	EC50			Dispersible

Test organism	Test Type	Test Endpoint	Predicted	Experimental	Comments
Fish	-	Chronic Value	> 100 > 10		Dispersible
Daphnid	-	Chronic Value	> 10		Dispersible
Green Algae	-	Chronic Value	> 10		Dispersible

Ecotox Value Comments: EPA estimated environmental hazard of this new chemical substance based on SAR predictions for polyanionic polymers (special class within ECOSAR v. 2.0).(dispersible); MW 2470 with 2.3% <500 and 9.6% <1000; solid (est.) with an unknown MP (P); S = dispersible (P); effective concentrations based on 100% active ingredients and mean measured concentrations; hardness <150 mg/L as $CaCO_3$; and TOC <2.0 mg/L.

No analogs with data identified.

Ecotox Factors

Factors	Most Sensitive Endpoint	Assessment Factor	CoC	Comment
Acute Aquatic (ppb):	100000	5	20000	
Chronic Aquatic (ppb):	10000	10	1000	

Factors	Values	Comments
SARs:	Polyanionic polymers	
SAR Class:	Polymer-anionic-[redacted]-dispersible	
TSCA NCC Category?	Polyanionic Polymers (Momomers)	

Recommended Testing:

Ecotox Factors Comments: o EPA estimated environmental hazard of this new chemical substance based on

SAR
predictions for polyanionic polymers (special class within ECOSAR v. 2.0).
o Acute ecotoxicity values estimated for fish (LC50), aquatic invertebrates (EC50) and algae (EC50) are >100, >100, and >100 mg/L, respectively.
o Chronic ecotoxicity values (ChVs) estimated for fish, aquatic invertebrates and algae are >10, >10, and >10 mg/L, respectively.
o These toxicity values indicate the PMN substance is expected to have low hazard.
o Application of assessment factors of 5 and 10 to acute and chronic toxicity values results in estimated acute concentration of concern (COC) of 20,000 ppb and a chronic COC of 1,000 ppb.

Comments/Telephone Log

Artifact	Update/Upload Time